1. POPOV, P. I.; BAYEV, K. L.; VORONTSOB-VEL'YAMINOV, B. A.; and RUNITSKIY, R. V.

2. USSR (600)

4. Physics and Mathematics

7. Astronomy, Popov, P. I., Bayev, K. L., Vorontsob-Vel'yaminov, B. A., and Runitskiy, R. V. (Second edition revised, Moscow, Education and Pedagogic Press, 1949). Reviewed by Dobronravich, P. P., Sov, Kniga, No 5, 1950.

9. [redacted] Report U-3081, 16 Jan 1953, Unclassified.

VORONTSOV-VEL'YAMINOV, B. A.

"Talks of Scientists. Progress of the Soviet Astronomy," Krasnyi Flot, 16 October 1949.

TRANSLATION AVAILABLE (6 pages), Call No.: 492053, TR-A-396a, 9 Aug. 50

VORONTSOV-VELIAMINOV, B. A.

"Astronomy," a textbook for use in the 10th grade of secojdary schools. 212 pages, 13[illegible] ill., Kirghiz State Publishing House, Frunze, 1949

"Is there Life on the Planets?", 36 pages with illustrations, Scientific-Popular Library Turkman State Pulbishing House, Ashkhabad-Krasnovodsk, 1949.

"The Structure of the Universe," 2nd enlarged edition, 48 pages with illus., State Publishing House of Juvenile Literature, Moscow/Leningrad, 1949.

"Collection of Problems and Exercises in Astronomy," (Sbornik zadach i uprazhneniy po astronomiy) 2nd Edition, Moscow-Leningrad, 1949.

VORONTSOV-VEL'YAMINOV, B. A.

"Astronomy, Textbook for the Tenth Grade of Secondary School," Baku, 1950, 192 pp., 124 drawings and moving star chart, 6,000 copies, 6.15 rubles bound, (in Azerbaydzhan); also State Publishers Belorussian SSR, Edition of Educational Pedagogical Literature, Minsk, 1950, 192pp., 124 drawings, 5,000 copies, 3.15 rubles bound, (in Belorussian).

"The World of Stars," Natural Science Library for Pupils, State Publishers of Children's Literature, Moscow/Leningrad, 1950, 72 pp with drawings, 200,000 copies, 90 kopeks.

"The Structure of the Universe," All-Union Society for the Propagation of Political and Scientific knowledge, Scientific-Popular Lecture (Collective Farm Series), Republic Lecture Bureau, Kazan', 1950, 16 pp., 1,075 copies, no charge, (in Tatar).

"Annotated Index No. 67 of Astronomical Literature Published in the USSR in April-May 1950," Astronomicheskiy Zhurnal, Vol. XXVII, No. 4, 1950, pp. 268-272.

VORONTSOV-VELIYAMINOV, B. A.

"The Elements of the Universe for Presentation in Physics Lessons in Schools," 44 pages, Pedagogical Library of the Teacher, Publishing House of the Academy of Pedagogical Sciences RSFSR, Moscow, 1950, 10,000 copies.

VORONTSOV-VELYAMINOV, B. A. (Prof.)

Astronomia (Astronomy), 212 p., Kirghiz State Publishing House, Frunze 1949.
Astronomical Journal, Vol. 27, No. 3, 1950.

PA 164T3

VORONTSOV-VEL'YAMINOV, B. A.

USSR/Astronomy - Star Distribution Jul/Aug 50
Hot Giants
Galaxy

"Distribution of Hot Giants in the Galaxy," B. A. Vorontsov-Vel'yaminov, State Astr Inst imeni P. K. Shternberg

"Astron Zhur" Vol XXVII, No 4, pp 211-227

Shows that young stars, namely hot giants, are actually included in our galaxy and in others like it, not in a few small-diameter associations (clusters) but in vast stellar clouds in which are density nebulas. Submitted 24 Jan 50.

164T3

VORONTSOV*VEL'YAMINOV, B. A.

168T2

USSR/Astronomy - Nebulas, Planetary Sep/Oct 50

"System of Planetary Nebulas: Investigation of Type-O Stars, Planetary Nebulas, and New Stars, Report 21," B. A. Vorontsov-Vel'yaminov, State Astr Inst Shternberg

"Astron Zhur" Vol XXVII, No 5, pp 285-301

Employs method of determining distances to planetary nebulas, proposed by author in 1934, to derive improved table of their distances and sizes. Tables include improved values motion and calculations of interstellar absorption of light and influence of nuclear temperatures.

[redacted]

168T2

USSR/Astronomy - Stars 11 Aug 50

"Distribution and Origin of Hot Giants in Our Galaxy and Other Spiral Systems," B. A. Vorontsov-Vel'yaminov

"Dok Ak Nauk SSSR" Vol LXXIII, No 5, pp 911-914

Our galaxy is spiral of "late" type according to many indications, one being abundance in it of hot giants in gaseous nebulas. In "late" spiral systems spiral arms are visible mainly because of stars of O and B types and stellar clusters containing such stars. Submitted 18 May 50 by Acad V. G. Fesenkov.

[redacted]

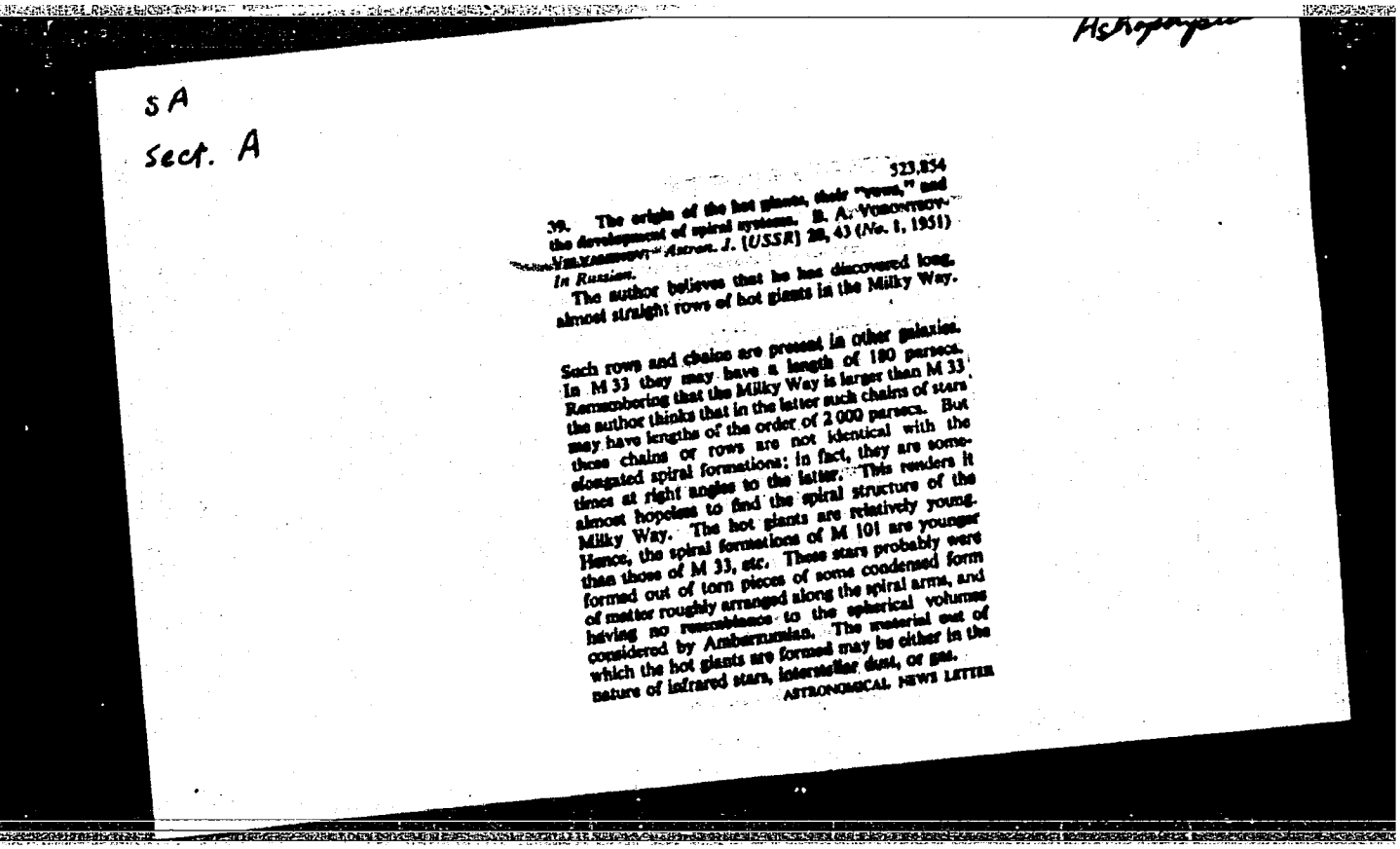
Ocherki o vselennoi (Essays about the universe),
Gostekhizdat, Moscow, 1951, 524 pp.

VORONTSOV-VEL'YAMINOV, fnu

Science.

Origin of celestial bodies. (Nauchno-populiarnaia biblioteka soldata). (Moskva), Voennoe izd-vo, 1951.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 Uncl.



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Sect. A

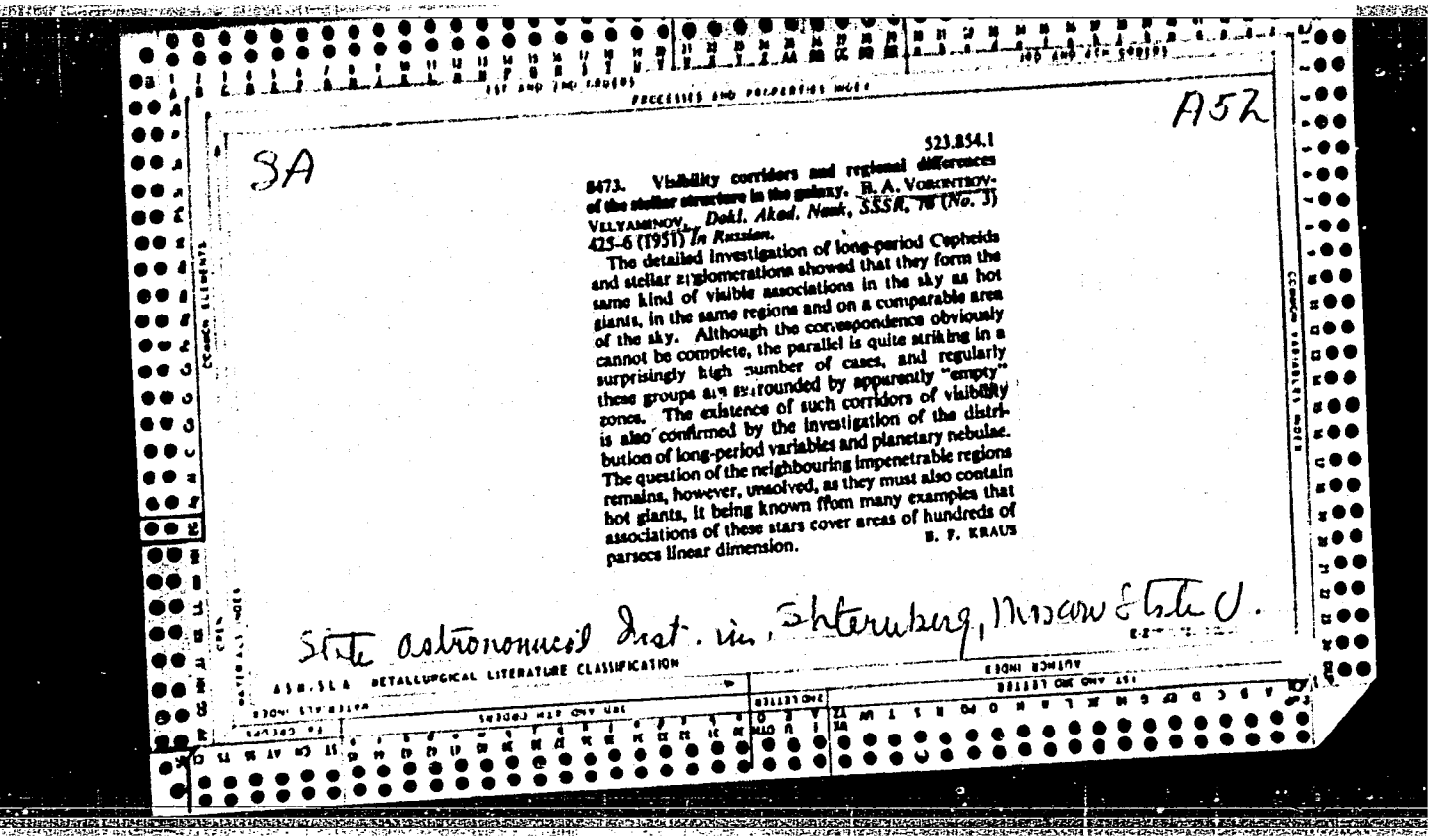
523.854

39. The origin of the hot giants, their "rows," and the development of spiral systems. B. A. VORONTSOV-VEL'YAMINOV. *Astron. J. (USSR)* 28, 43 (No. 1, 1951) *In Russian.*

The author believes that he has discovered long, almost straight rows of hot giants in the Milky Way.

Such rows and chains are present in other galaxies. In M 33 they may have a length of 180 parsecs. Remembering that the Milky Way is larger than M 33, the author thinks that in the latter such chains of stars may have lengths of the order of 2 000 parsecs. But these chains or rows are not identical with the elongated spiral formations; in fact, they are sometimes at right angles to the latter. This renders it almost hopeless to find the spiral structure of the Milky Way. The hot giants are relatively young. Hence, the spiral formations of M 101 are younger than those of M 33, etc. These stars probably were formed out of torn pieces of some condensed form of matter roughly arranged along the spiral arms, and having no resemblance to the spherical volumes considered by Ambartsumian. The material out of which the hot giants are formed may be either in the nature of infrared stars, interstellar dust, or gas.

ASTRONOMICAL NEWS LETTER



SA

A52

523.854.1

8473. Visibility corridors and regional differences of the stellar structure in the galaxy. B. A. VORONTSOV-VELYAMINOV, *Dokl. Akad. Nauk, SSSR*, 78 (No. 3) 425-6 (1951) *In Russian.*

The detailed investigation of long-period Cepheids and stellar agglomerations showed that they form the same kind of visible associations in the sky as hot giants, in the same regions and on a comparable area of the sky. Although the correspondence obviously cannot be complete, the parallel is quite striking in a surprisingly high number of cases, and regularly these groups are surrounded by apparently "empty" zones. The existence of such corridors of visibility is also confirmed by the investigation of the distribution of long-period variables and planetary nebulae. The question of the neighbouring impenetrable regions remains, however, unsolved, as they must also contain hot giants, it being known from many examples that associations of these stars cover areas of hundreds of parsecs linear dimension.

B. P. KRAUS

State astronomical Inst. im. Shternberg, Moscow & State U.

VORONTSOV-VEL'YAMINOV, B. A.

PA 19277

USSR/Astronomy - Galaxy Sep/Oct 51

"Visibility Corridors, Spiral Branches and Non-homogeneities in Structure of Galaxy," B. A. Vorontsov-Vel'yaminov, State Astr Inst imeni Shternberg

"Astron Zhur" Vol XXVIII, No 5, pp 388-402

Proves existence of visibility corridors by study of spatial distribution of long-period variables, Cepheids, dispersed clusters, super-giants of type A and planetary nebulae. Distorted effects of O and B stars in perspective

19277

USSR/Astronomy - Galaxy (Contd) Sep/Oct 51

in visibility corridors and in opaque parts give inaccurate distribution picture in spiral branches. Suggests study of Galaxy by investigation of weak O and B stars.

19277

VORONTSOV-VEL'YAMINOV, B.A.

Nature of stellar evolution. Vop.kosm.1:131-143 '52. (MLRA 7:2)
(Stars)

VORONTSOV-VEL'YAMINOV, B.A., prof., red.; SHVETSOV, M.P., tekhn. red.

[Program of the course "astronomy and methods of teaching it in secondary schools;" for physics and mathematics faculties of pedagogical institutes] Programma kursa "Astronomiia s metodikoi prepodavaniia ee v srednei shkole" dlia fiziko-matematicheskikh fakul'tetov pedagogicheskikh institutov. Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1953. 10 p. (MIRA 11:9)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye podgotovki uchiteley.

(Astronomy—Study and teaching)

VORONTSOV-VEL'YAMINOV, Boris Aleksandrovich,

1904- New and the newest stars; public lecture Moskva, Izd-vo Znanie, 1953. 30p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Seriia 3, no. 27)

1. Stars, New.

VORONTSOV-VEL'YAMINOV, B. A.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 634 - I

BOOK

Call No.: AF653648

Author: VORONTSOV-VEL'YAMINOV, B. A., Prof.
Full Title: COLLECTED ASTRONOMICAL PROBLEMS AND EXERCISES. 3rd ed.
Transliterated Title: Sbornik zadach i uprazhneniy po astronomii. Izd. 3-e

PUBLISHING DATA

Originating Agency: None
Publishing House: State Publishing House of Technical and Theoretical Literature
Date: 1953 No. pp.: 272 No. of copies: 8,000
Editorial Staff
Contributors: Prof. P. P. Parenago, who checked the answers in the first edition, and M. A. Borchev, who checked the complete text and made corrections.

PURPOSE: To demonstrate practical applications of established theoretical conclusions, and to give the students of universities and secondary schools and understanding of how scientists arrived at and established certain facts in astronomy.

TEXT DATA

Coverage: The text contains the preface to the second edition, in which the author emphasizes the value of the practical illustration of theoretical statements in astronomy. In order to classify the

Sbornik zadach i uprazhneniy po astronomii. Izd. 3-e AID 634 - I

problems presented in the book he divides them into 28 groups, and subdivides each group into two "concenters". One "concenter" is within reach of secondary students of the 10th grade with the astronomical knowledge given in his textbook for these schools, and the other "concenter" is for students of institutions of higher learning. Each group is preceded by theoretical statements and the necessary formulae. In the last miscellaneous group the author cites several statements from literature and history, in which a description is given of the position of the stars, in order to have the students determine the time of the year, the route of travel etc. The total number of exercises is 1200. Solutions of all of them are given at the end of the book (pp. 212-246), 15 tables are added (pp. 247-259). 50 figures and 19 photoplates illustrate the text.

No. of References: Several in the text.
Facilities: None

VORONTSOV-VEL'YAMINOV B.A.

POPOV, P.I.; Bayev, K.L. [deceased]; VORONTSOV-VEL'YAMINOV, B.A.; KUNITSKIY, R.V.; SHORYGIN, S.A., redaktor; TSIRUL'NITSKIY, N.P., tekhnicheskiy redaktor

[Astronomy; textbook for physics-mathematics faculties] Astronomiia. Uchebnik dlia fiziko-matematicheskikh fakul'tetov pedagogicheskikh institutov. Pod obshchei red. P.I.Popova. Izd. 3-e, vnov' perer. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1953. 543 p. (MLRA 7:9)
(Astronomy)

"New Works of the Crimean Astrophysical Observatory," P. P. Dobroserdov and S. B. Pikel'ner

Priroda, No 7, pp 50-56

Describes the history of the Crimean Observatory at Simeis, from 1908, the date of its origin, to the present. Discusses the works of G. A. Shayn and V. F. Gaze (ratios of numbers of isotopes in the atmosphere of stars, and carbon stars); P. F. Shayn (light from stars); P. P. Dobroserdov (spectra); V. B. Nikonov, associate at Pulkovo Observatory, A. A. Kulinyak, and V. I. Krasovskiy (study of Stellar infrared rays by means of electron-optical converters); I. S. Shklovskiy (theoretical radioastronomy); V. A. Ambartsumyan (red giants); Prof B. A. Vorontsov-Vel'yamin (interstellar gas blown from the surface of hot stars); G. A. Konin and A. B. Severn (spectroheliograph designs); A. B. Gil'varg (light filters); E. R. Mustel (chromospheric outbursts); D. D. Maksutov, Corr-Mem Acad Sci USSR (studies with menicus telescope-reflector system and coronograph).

258T56

USSR/Astronomy - Galaxy Jan/Feb 53

"Spiral Structure of the Galaxy," B.A. Vorontsov-Vel'yaminov, State Astron Inst imeni Shternberg

"Astron Zhur" Vol 30, No 1, pp 37-49

Although only 2 spiral arms have been established in the galaxy, author believes there are no less than three. Studies of optical structure of the galaxy agree with those of other galaxies, but it is not clear whether optical conclusions agree with results of radio astronomy. Received 11 Nov 52.

246T38

VORONTSOV-VEL'YAMINOV, B. A. Jul/Aug 53

USSR/Astronomy - Galaxy

"Clouds of Hot Giants and Clouds of the Milky Way," B. A. Vorontsov-Vel'yaminov, State Astron Inst im Shternberg

Astr Zhur, Vol 30, No 4, pp 394-413

Describes visible clouds of supergiants in spiral branches of our Galaxy and their coincidence with visible clouds of faint stars in the Milky Way. Estimates their mean distances and the corresponding magnitudes in the cross sections of corridors of visibility. These comparisons prove the importance of existence of visibility corridors in the Galaxy. Received 9 Mar 53.

262T28

VORONTSOV-VEL'YAMINOV, B.A.

First Russian star map. Astron.zhur. 30 no.5:552-556 S-O '53.
(MLRA 6:11)
(Stars)

VORONTSOV-VEL'YAMINOV, B.A.; MANOVA, G.A.

Visible condensations of variable stars of the Mira Ceti type.
Astron.tsir. no.139:5-6 Je '53. (MLRA 7:1)
(Stars, Variable)

VORONTSOV-VEL'YAMINOV, B. A.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of work	Nominated by
Vorontsov-Vel'yaminov, B. A.	"Notes on the Universe" (popular scientific work, 2d edition)	Moscow State University imeni M. V. Lomonosov

SO: W-30604, 7 July 1954

VORONTSOV-VEL'YAMINOV, B.A., professor; MEZENTSEV, V.A., redaktor; AKHLAMOV, S.B., tekhnicheskiy redaktor

[Origin of celestial bodies] Proiskhozhdenie nebesnykh tel. Izd. 2-e, perer. Moskva, Ges. izd-vo tekhniko-teoret. lit-ry, 1954. p. 30. (Nauchno-prosvetitel'naia biblioteka, no. 2). (MLRA 8:10)
(Solar system)

VORONTSOV-VEL'YAMINOV, B.A., professor; SHISHAKOV, V.A., kandidat pedagogicheskikh nauk, redaktor; TSIRUL'NITSKIY, N.P., tekhnicheskiy redaktor.

[Astronomy; textbook for the class 10 of secondary school] Astronomiia; uchebnik dlia 10-go klassa srednei shkoly. Izd. 8. Moskva, Ges.uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1954. 175 p.
(Astronomy) (MLRA 8:5)

Vorontsov-Vel'yaminov, B.A.

VORONTSOV-VEL'YAMINOV, B.A.

Photometric structure of a typical comet (Comet 1942g) Biul.Abast. astrofiz.obser. no.17:49-73 '54. (MLRA 8:10)
(Comets--1942)

VORONTSOV-VEL'YAMINOV, B. A.

AID - P-58

Subject : USSR/Astronomy

Card : 1/1

Authors : Vorontsov-Vel'yaminov, B. A. and Manova, G. A.

Title : Chart of Galactic Depths

Periodical : Astron. zhur., V. XXXI, 1, 27-30, Ja - F 1954

Abstract : The chart shows the visible and spatial distribution of known super-giants in zone ± 8° from the galactic equator. Star symbols correspond to distances. The chart is divided in six sections of 60° of galactic longitudes each. The article is based on catalogs and the works of A. Wallenquist, Morgan, R. Trumpler, K. A. Barkhatova and others. The bibliography gives 15 references (2 Russian).

Institution : State Astron. Inst. im. P. K. Shternberg

Submitted : June 6, 1953

VORONTSOV-VEL'YAMINOV, B. A.

AID - P-233

Subject : USSR/Astronomy

Card : 1/2

Author : Vorontsov-Vel'yaminov, B. A.

Title : Origin of Stars Observed in a Galaxy having a Reverse Movement and a Velocity Surpassing the Parabolic

Periodical : Astron. zhur., v. 31, 2, 161-166, Mr - Ap 1954

Abstract : The article shows that stars and spherical stellar accumulations, with a greater than parabolic velocity or with a movement reverse to the revolution of the Galaxy, might possibly come partially from other galaxies or mostly from the intergalactic stellar plasma, where they originate at various times. In this case a possibility exists of a detailed study of stars representing extra-galactic space. Galaxies should be regarded to a certain extent as being in a state of interchange of matter with the surrounding medium. Ways are shown of further checking this statement. Apparently, galaxies originate in places of the galactic plasma where are formed regions of lowered differential movements of diffused matter.

AID - P-233

Astron. zhur., v. 31, 2, 161-166,
Mr - Ap 1954, (additional card)

Card : 2/2

Seven references (after 1945), of which 5 are Russian.

Institution : State Astronomical Institute im. P. K. Shternberg

Submitted : June 1, 1953

VORONTSOV-VEL'YAMINOV, Boris Aleksandrovich; ARKHIPOVA, Vera Petrovna; KUKARKIN, B.V., prof., otv.red.; DOKUCHAYEVA, O.D., red.

[Morphological catalog of galaxies. Pt 3. Catalog of 6740 galaxies from + 15° to - 9° of declination]. Morfologicheskii katalog galaktik. Pt. 3. Katalog 6740 galaktik ot + 15° do - 9° sklonenila. [Moskva] Izd-vo Mosk. univ. 1963. 260 p. (Moskva. Universitet. Gosudarstvennyi astronomicheskii institut. Trudy, no.33).
(MIRA 17:4)

POPOV, P.I., prof.; VORONTSOV-VEL'YAMINOV, B.A., prof., red.; PONOMAREVA, A.A., tekhn. red.

[Programs of pedagogical institutes; astronomy for physics and mathematics faculties; major: mathematics] Programmy pedagogicheskikh institutov; astronomiia dlia fiziko-matematicheskikh fakul'tetov. Spetsial'nost' - matematika. [Moskva] Uchpedgiz, 1955. 6 p. (MIRA 11:9)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i srednikh pedagogicheskikh uchebnykh zavedeniy.
(Astronomy--Study and teaching)

VORONTSOV-VEL'YAMINOV, B.A.

VORONTSOV-VEL'YAMINOV, B.A., prof.; KADER, Ya.M., red.; MYASNIKOVA, T.F. tekhn.red.

[The origin of celestial bodies] Proiskhozhdenie nebesnykh tel. Moskva, Voen.izd-vo M-va obor. SSSR, 1955. 71 p. (MIRA 11:2)
(Cosmogony)

VORONTSOV-VEL'YAMINOV, BORIS ALEKSANDROVICH

VORONTSOV,-VEL'YAMINOV, Boris Aleksandrovich; SAMSONENKO,L.V., redaktor; TUMARKINA,N.A., tekhnicheskiy redaktor

[Essays on the universe] Ocherki o vselennoi. Izd. 3-e. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1955. 535 p. (MLRA 9:2)
(Cosmogony)

VORONTSOV-VEL'YAMINOV, V.A.

Scattered groups of supergiants. Vop.kosm. 4:108-124 '55. (MIRA 9:4)
(Stars--Distribution)

VORONTSOV-VEL'YAMINOV, B.A., doktor fiziko-matematicheskikh nauk.

The universe. Nauka i zhizn' 22 no.4:41-46 Ap '55.
(Cosmology) (MLRA 8:6)

VORONTSOV-VELYAMINOV, B.A.

Distribution of supergiants and dust in M33 and their relation.
Astron.zhur.32 no.5:401-411 S-O '55. (MLRA 9:1)

1.Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.
(Nebulae) (Stars--Distribution) (Interstellar matter)

VORONTSOV-VEL'YAMINOV, B.A.

Relationship in the distribution of supergiants and dust.
Astron.tsir. no.160:10-11 Je'55. (MLRA 8:12)
(Nebulae)

POPOV, P.I., prof.; VORONTSOV-VEL'YAMINOV, B.A., red.; [illegible]IRNOVA, M.I., tekhn. red.

[Programs of pedagogical institutes; astronomy for geography faculties] Programmy pedagogicheskikh institutov; astronomiia dlia geograficheskikh fakul'tetov. [Moskva] Uchpedgiz, 1956. 6 p. (MIRA 11:9)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i srednikh pedagogicheskikh uchebnykh zavedeniy.
(Astronomy—Study and teaching)

VOROS, T.

4
1630

The wave-length shift of emission spectra. Árpád Bardócz, Márta D. Vanyek, and Tibor Vörös. *Magyar Fiz. Folyóirat* 7, 117-28(1959).—The shifts of wave lengths of emission spectra were investigated as a function of excitation time. The observed shifts can be classified in 3 groups. To the 1st belong those with $nsnp - ns(n + 2)s$ electron transition, their wave length shift is the largest. Those of the smallest wave shift belong to $nsnp - ns(n + 1)s$ electron transition. Those of an intermediate wave length shift have an electron transmission type: $nsnp - ns(n + 1)d$. The shift is always toward red, and is largest at the beginning of excitation, then diminished. Zn, Cd, Hg, and Mg were investigated. The wave length shift for electron transitions of the same type are identical for elements of the same column of the periodic system. E. Ropa

C7F

VORONTSOV-VEL'YAMINOV, Boris Aleksandrovich, professor; BRONSHTEN, V.A., redaktor; TSIKUL'NITSKIY, N.P., tekhnicheskiy redaktor

[Astronomy; a textbook for class 10 of the secondary school] Astronomiia; uchebnik dlia X klassa sredney shkoly. Izd. 10-oe, perer. i sokrashchen. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshchenila RSFSR, 1956. 143 p. (MLRA 9:9)
(Astronomy)

VORONTSOV-VEL'YAMINOV, Boris Aleksandrovich; PEHEL', Yu.G., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor

[Outline history of astronomy in Russia] Ocherki istorii astronomii v Rossii. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1956. 371 p. (Astronomy--History)

VORONTSOV-VEL'YAMINOV, B.A.

Spiral structure and the rotation of galaxies. Izv.Astrofiz.Inst. AN Kazakh. SSR 3 no.4:46-52 '56. (MLRA 9:10)

(Milky Way)

VORONTSOV-VEL'YAMINOV, B.A.

Morphology of the galaxies. Part. 1:Nucleus of spiral galaxy M33
Astron. zhur. 33 no.1:14-19 Ja-F '56. (MLRA 9:6)

1.Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.
(Stars--Distribution)

VORONTSOV-VEL'YAMINOV, B.A.

Morphology of galaxies. Report no.1, part 2: Compact groups of supergiants in M33. Astron.zhur. 33 no.2:205-209 Mr-Ap '56. (MLRA 9:8)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga.

(Stars--Clusters)

VORONTSOV-VEL'YAMINOV, B.A.

Distances of planetary nebulae and the evolution of their nuclei [with summary in English]. Astron.zhur.33 no.6:809-816 N-D '56. (MLRA 10:1)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga.
(Nebulae) (Stars--Distance)

VORONTSOV-VELYAMINOV, B. A.

"Galaxies with Broad Emissions in the Spectra of Their Nuclei and Radiogalaxies," paper presented at the Eighth International Congress on Astrophysics, Liege, Belgium, 8-10 July 1957

P.M

"Spectrophotometric Temperatures of the Wolf-Rayet Stars," second paper presented at above congress.

VORONTSOV-VEL'YAMINOV, Boris Aleksandrovich, professor; RAKHLIN, I.Ye., redaktor; BRUDNO, K.F., tekhnicheskiy redaktor

[Collection of problems and exercises in astronomy] Sbornik zadach i uprazhnenii po astronomii. Izd. 4-oe. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1957. 270 p. (MLRA 10:6)
(Astronomy--Problems, exercises, etc.)

AUTHOR: Vorontsov-Vel'yaminov, B.A.

TITLE: Morphology of galaxies III. Diffuse matter in spherical stellar systems. (Morfologiya galaktik. III. Diffuznaya materiya v sfericheskikh zvezdnykh sistemakh).

PERIODICAL: Astronomicheskii Zhurnal, 1957, Vol.34, No.1, pp.8-18 (USSR).

ABSTRACT: There is a widespread belief that spherical stellar systems are devoid of diffuse matter, and that the latter is characteristic only of plane systems. This belief is critically discussed in the light of published data.

Shklovskii (3) has shown that if the diameter of a globular cluster is about 100 parsecs and the gas density in it about 10^{-23} gm/c.c., then at 100°K the radiation due to neutral hydrogen at $\lambda = 21$ cm would be similar to that in the direction of the galactic centre. It is improbable that within such clusters the gas density is higher by one order than the density within the galactic spiral branches. Mills (2) has reported a negative result using 3.5 m waves.

The presence of gas of density of the order of 10^{-24}gm/c.c. (cf. average density in the solar vicinity) could not be detected from absorption lines in the stellar spectra owing to the small extent of the clusters. It is concluded that the possible and existing methods of observation can neither prove nor exclude the presence of diffuse matter in globular clusters. If such matter does exist there are no pronounced inhomogeneities in its distribution.

Morphology of galaxies III. Diffuse matter in spherical stellar systems (Cont.)

There is definite evidence for the existence of diffuse matter in elliptical galaxies. According to Page (5), gas emission lines may be observed in 62% of the 16 elliptical galaxies of type E which he studied. In our own galaxy the luminosity of the interstellar gas is due (with some exceptions) to irradiation by hot stars. According to Baade (6) about a dozen of hot blue giants are known in elliptical companions of M31 in NGC 205 and NGC 185. Nothing is known about the presence of hot giants in other elliptical galaxies. One may conjecture that the absence of bright lines in 38% of type E galaxies is due not to the absence of diffuse matter but to the absence of sufficiently hot stars. Thus diffuse matter is probably present in all elliptical galaxies. In the spherical radiogalaxies NGC 4486 and 5128 gas radiation is considerable. U.V. photographs of the companions of M31 show that out of four elliptical companions of this gigantic spiral, two contain dust clouds (6, 7). It is estimated that the mass of diffuse matter in NGC 205 is probably of the order of 10^7 $M_\odot$, and possibly 10^5 $M_\odot$. Since the mass of this galaxy is of the order of 10^8 $M_\odot$, the fraction of the total mass which is due to diffuse matter, is similar to that in the spiral branches of our own galaxy.

At a distance of 7° from M31 there is a pair of weak elliptical galaxies, NGC 147 and 185. The former is free

Morphology of galaxies III. Diffuse matter in spherical stellar systems (Cont.)

from dust Baade (6), while the latter has a well defined dust cloud of 8 x 30 parsecs at a distance of 50 parsecs from the centre. After the radiogalaxies NGC 5128 and 1316, in the middle of the system consisting of type II population, there is the elliptical galaxy NGC 5195 (companion of M 51) which is rich in dark matter. It is pointed out that double galaxies such as M51, where the spiral arm of one galaxy joins it directly to the smaller galaxy (Fig.2), are not exceptional. NGC 4485 - 90, NGC 5278 - 9, and possibly NGC 7678 all have this property. "Analytical photographs" of Zwicky (14) show that the main mass of stars in NGC 5195 have the same nature as the nucleus of M 51 itself, i.e. it consists of stars of population II. The spectrum of NGC 5195 contains (5) the emission lines H_α (but not N11 or λ3727Å), and the absorption lines H_β - H_δ. It is possible that in the integral spectrum, stellar absorption lines mask the weaker gas emission lines H_β - H_δ caused by a small number of hot stars in the central part of NGC 5195. The latter is similar to NGC 205 in that, while it contains a considerable amount of dust, it shows traces of formation of spiral branches. Both of them belong to a new type, intermediate between the elliptical and the spiral. It is conjectured that the formation of spiral branches begins when dust (together with cold gas) appears in elliptical galaxies.

Morphology of galaxies III. Diffuse matter in spherical stellar systems (Cont.).

The degree of their development probably depends on the amount of diffuse matter in the nucleus, and this may be taken as proportional to the volume of the nucleus. The presence of dust in elliptical galaxies and the nuclei of spirals is best seen in U.V. photographs.

There are indications of radial motion of dust in NGC 5195 and in the nuclei of spirals. They support the hypothesis that, given a sufficient amount of diffuse matter, its flow down the magnetic lines of force causes the formation of spiral branches.

In the case of spherical stellar systems evidence for the motion of diffuse matter from the centre to the periphery tends to suggest that this matter is present in stellar systems to start with, and does not accumulate at a subsequent time. 2 Figures, including photographs. 17 references, 3 of which are Russian.

State Astronomical Institute
imeni P. K. Shternberg.

Recd. July 26, 1956.

VORONTSOV-VEL'YAMINOV, B.A.
P. 2-3

PHASE I BOOK EXPLOITATION SOV/3405

Soveshchaniye po voprosam kosmogonii. 6th, Moscow, 1957

Vnegalakticheskaya astronomiya i kosmologiya; trudy soveshchaniya (Extragalactic Astronomy and Cosmology; Transactions of the 6th Conference on Problems of Cosmogony, June 5-7, 1957) Moscow, AN SSSR, 1959. 273 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR.

Ed. of Publishing House: L.V. Samsonenko; Tech. Ed.: G.N. Shevchenko; Editorial Board: D.A. Frank-Kamenetskiy (Resp. Ed.) Professor; B.A. Vorontsov-Vel'yaminov, Corresponding-Member.

PURPOSE: The book is intended for astronomers and physicists studying problems of general cosmology.

COVERAGE: The book is a collection of papers on cosmogony read by scientists participating in a conference held in Moscow on June 5-7, 1957. The papers review recent observational and theoretical work in extragalactic astronomy, gravitational theory, theory of relativity, red shift, radio astronomy, formation of chemical

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elements, thermodynamics of the universe, entropy, etc. No personalities are mentioned. There are references following most of the reports.

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POSSIBILITY AND ACCURACY OF OBSERVATIONS

EVENING SESSION OF JUNE 6, 1957
RADIO ASTRONOMY AND COSMOLOGY. ORIGIN OF CHEMICAL ELEMENTS

Extragalactic Astronomy (Cont.) SOV/3405

Idlis, G.M. Structural Infinity of the Universe and the Metagalaxy as a Typical Populated Cosmic System (Summary of Report) 270

AVAILABLE: Library of Congress

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6-8-60

VORONTSOV-VEL'YAMINOV, B.A.

Tails of Arend-Roland's comet. Astron.tsir. no.180:6-7
My '57. (MIRA 13:4)
(Comets--1956)

VORONTSOV-VEL'YAMINOV, B.A.; DOKUCHAYEVA, O.D.; YEFREMOV, Yu.I.; KOZARENKO, B.I.; KARIMOVA, D.K.; KOSTYAKOVA, Ye.B.; LOZINSKIY, A.M.; MANOVA, O.A.; TSITSIN, F.A.; SHAROV, A.S.

Observations of Arend-Roland's comet (1956 h). Astron.tsir. no.180:2-4 My '57. (MIRA 13:4)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga, Moskva.
(Comets--1956)

VORONTSOV-VEL'YAMINOV, B.A.

VORONTSOV-VEL'YAMINOV, B.A.

Unusual interpenetrating galaxies NGC 4676. Astron.tsir. no.178:19-21 Mr '57. (MLRA 10:9)

(Stars--Clusters)

VORONTSOV-VEL'YAMINOV, B.A.

Voprosy kosmogonii, t. 6 (Problems in Cosmogony, Vol. 6) Moscow, Izd-vo AN SSSR, 1958. 367 p. 2,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Astronomicheskiy sovet.

ARTICLES

REPORTS

AVAILABLE: Library of Congress

VORONTSOV-VEL'YAMINOV, Boris Aleksandrovich, prof.; LAVROVSKIY, K.F., red.; TSIRUL'NITSKIY, N.P., tekhn. red.

[Astronomy; textbook for grade 10 high-school students] Astronomiia; uchebnik dlia X klassa srednei shkoly. Izd.12 Moskv, Uchpedgiz, 1958. 143 p. (MIRA 15:7)
(Astronomy)

3(1)

AUTHOR: Vorontsov - Vel'yaminov,B.A. SOV/33-35-2-3/21

TITLE: Radio-Galaxies and ~~Galaxies with~~ Broad Emissions in the Spectra. Morphology of Galaxies.IV (Radiogalaktiki i galaktiki s shirokimi emissiyami v spektre. Morfologiya galaktik. IV.)

PERIODICAL: Astronomicheskiy zhurnal, 1958, Vol 35, Nr 2, pp 208-217 (USSR)

ABSTRACT: The author describes galaxies with a broad emission in their nuclear spectrum and compares them with radio galaxies. A great part of the paper has a polemic character and is directed against the opinions of Baade and Minkovski [Ref 3,8]. The author has the opinion that the radio galaxies NGC 1316, 5128 and probably also Cygnus A all belong to the same class and that they are no galaxies in collision. He puts the question whether all radio galaxies are of the same type (giant ellipsoidal galaxies), where we observe a part of them "from above" and the other part "from the side". The paper contains

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Radio-Galaxies and Galaxies With Broad Emissions in the Spectra. Morphology of Galaxies. IV

SOV/33-35-2-3/21

four points altogether: 1. Galaxies with a broad emission in the spectrum; 2. Spectra of radio galaxies; 3. The interpretation of galaxies; 4. Gas mass in the nuclei of galaxies.
There are 19 references, 5 of which are Soviet, 1 English, and 13 American.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga (State Astronomical Institute imeni P.K.Shternberg)

SUBMITTED: May 10, 1957

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VORONTSOV-VEL'YAMINOV, B.A.

3(1) PHASE I BOOK EXPLOITATION SOV/1968

Popov, Pavel Ivanovich, Kosntantin L'vovich Bayev, Boris Aleksandrovich Voro n:sov-Vel'yaminov, and Rostislav Vladimirovich Kunitskiy

Astronomiya; uchebnik dlya fiziko-matematicheskikh fakul'tetov pedagogicheskikh institutov (Astronomy; a Textbook for Physics and Mathematics Faculties of Pedagogical Institutes). 4th ed., rev. Moscow, Uchpedgiz, 1958, 461 p. 16,000 copies printed.

Ed. (Title page): P.I. Popov; Ed. (Inside book): S.A. Shorygin; Tech. Ed.: N.P. Tsirul'nitskiy.

PURPOSE: This book, a manual on general astronomy, is intended for students and teachers. It is particularly useful in dealing with the practical aspects of astronomy.

COVERAGE: This book represents the fourth edition of the work and has been rewritten along lines proposed by its users and on the

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basis of new findings in the field. This edition of the book was subjected to a complete reexamination by the Educational-Methodological Section of the Central Council of the All-Union Astronomical Geodetic Society and the Moscow Astronomical Section on the basis of reports by Corresponding Member of the AS, USSR, P.P. Rarenago and the chairman of the Astronomical Section P.I. Bakulin. Further advice on improving the work were received from Professors K.A. Kulikov, Eynasto, and O.V. Golubeva. This edition of the work has been made more compact than its predecessors. Material which might be found in related fields has been omitted, as has purely descriptive material which has now been made available in popular science type booklets. The book includes material on celestial mechanics, astrophysics, cosmogony, and astrometry. There are 150 Soviet references.

TABLE OF CONTENTS:

3(1)

AUTHOR: Vorontsov - Vel'yaminov, B.A. SOV/33-35-6-5/18

TITLE: The Interaction of Galaxies and the Nature of Their Arms, Spanning Filaments and Tails

PERIODICAL: Astronomicheskiy zhurnal,1958,Vol 35,Nr 6, pp 858 - 868 (USSR)

ABSTRACT: The author presents a detailed description of the forms of interaction of 500 interacting and interpenetrating galaxies which have been taken from the Palomar Sky Atlas. The structure of their spanning filament and tails is investigated; they consist mainly of hot stars mixed with some gases. In most cases the interaction take place in form of decay of the fronts of the interacting sides of the galaxies. The cases of attraction of spiral arms by disturbing galaxies are relatively rare. The author deals in particular with groups of galaxies in a common atmosphere and presents some arguments which are to prove his opinion that these galaxies are of common origin and not the results of occasional collisions. He then treats the origin of the different forms of arms and tails. The interpretation of V.A. Ambartsumyan concerning trapezoidal galaxies is approved

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The Interaction of Galaxies and the Nature of Their Arms, Spanning Filaments and Tails SOV/33-35-6-5/18

by the author.
A catalogue and an atlas of 500 interacting galaxies is in preparation. The author refers to the new photographies of interacting galaxies reproduced in the Proceedings of the VI Cosmogonic Conference, Moscow 1957.
There are 11 references, 4 of which are Soviet, 4 American, 1 English, 1 German, and 1 Swedish.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga (State Astronomical Institute imeni P.K. Shternberg)

SUBMITTED: March 22, 1958

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PHASE I BOOK EXPLOITATION 1078

Vorontsov-Vel'yaminov, Boris Aleksandrovich, Corresponding Member, USSR Academy of Pedagogical Sciences

Dostizheniya sovetskoy astronomii (Achievements of Soviet Astronomy) Moscow, Izd-vo "Znaniye", 1958. 31 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya VIII, 1958, vyp. II, no. 13) 35,000 copies printed.

Sponsoring Agency: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy.

Ed.: Leykin, G.A.; Tech. Ed.: Berlov, A.P.

PURPOSE: This is the transcript of a public lecture delivered in Moscow in 1958.

COVERAGE: The lecturer reviews in popular terms the advancement and achievements of Soviet astronomy. Touching only briefly on the past work of Russian astronomers, he refers to practical problems of astronomy including the computation of trajectories for future travels to moon, the study of planets and comets, and to research in solar problems. The review covers the fields of variable and

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Achievements of Soviet Astronomy 1078

"nova" stars, nebulae, the structure of the universe and the origin of celestial bodies, and discusses the new instruments available to Soviet scientists. There are no references.

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Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1959, Nr 9, pp 3 - 4 (USSR)

AUTHOR: Vorontsov-Vel'yaminov, B.A.

TITLE: The Conference on the Physics of Planetary Nebulae, Leningrad, February 3 - 4, 1957

PERIODICAL: V sb.: Vopr. kosmogonii, Vol 6, Moscow, AS USSR, 1958, pp 354 - 358

ABSTRACT: Here follows a brief account of the Conference that took place in Leningrad on February 3 - 4, 1957, on the physics of planetary nebulae. The following lectures were heard: On certain problems in the physics of planetary nebulae, by V.V. Sobolev; the lecture delivered by A.Ya. Kipper and V.M. Tiyt was concerned with a detailed revision of the question on the dispersion of light quanta in connection with the problem of the origin of the continuous spectrum of the nebulae; on the magnetic fields in planetary nebulae and the origin of the latter by G.A. Gurzadyan; on the results of the calculations made by the lecturer in connection with the hypothesis on the formation of shells of planetary nebulae as a result of the action of a shock (for example, the ionization wave, by S.A. Kaplan;

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The Conference on the Physics of Planetary Nebulae, Leningrad, February 3 - 4, 1957

on calculations relating to the model of the cold, spherical gaseous medium which fills the whole Galaxy by S.B. Pikel'ner and I.S. Shklovskiy; on the hypothesis, developed by the lecturer, concerning the formation of shells of planetary nebulae by way of their quiet separation from the atmospheres of the red giants of the RV Tau type by I.S. Shklovskiy; B.A. Vorontsov-Vel'yaminov made a series of critical remarks in connection with the hypothesis by I.S. Shklovskiy; both P.P. Parenago and V.V. Sobolev pointed out a number of difficulties encountered by Shklovskiy's hypothesis; N.A. Razmadze's report was devoted to photocolorimetric observations on the basis of which he drew a conclusion concerning the great dispersion of the masses of planetary-nebula shells; Gulak reported on the study of the isophotes of a series of nebulae in order to define more accurately the distribution of densities in them; I.N. Minin gave an account of a joint examination of the dynamics and the field of the $L\alpha$-radiation.

G.A. Manova

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3(1) PHASE I BOOK EXPLOITATION

Vorontsov-Vel'yaminov, Boris Aleksandrovich, Professor

Proiskhozhdeniye nebesnykh tel (Origin of Celestial Bodies) Moscow, Voyen. izd-vo M-va obor. SSSR, 1958. 128 p. (Series: Nauchno-populyarnaya biblioteka) Number of copies printed not given.

Ed.: Ya. M. Kader; Tech. Ed.: N.P. Mezheritskaya.

PURPOSE: This booklet is intended for the general reader.

COVERAGE: This popular science type booklet discusses various theories on the origin of the universe. It compares theories based on the lastest scientific findings with those of former years based on pure speculation. It treats briefly the various celestial bodies and the instruments used to study them. Sketches and photographs accompany the text. No references are given.

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Origin of Celestial (Cont.)

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Origin of Celestial (Cont.)

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001861010009-5"

Vorontsov-Vel'yaminov, Boris
Aleksandrovich

Astronomiya; uchebnik dlya 10. klassa sredney shkoly [Astronomy; textbook for the tenth grade of secondary school] Izd.12. Moskva, Uchpedgiz, 1958.

143 p. illus., diagrs., maps, tables.

Bibliographical footnotes.

VORONTSOV-VEL'YAMINOV, B.A.

3(1) PHASE I BOOK EXPLOITATION SOV/1840

Vsesoyuznoye astronomo-geodezicheskoye obshchestvo

Astronomicheskiy kalendar; yezhegodnik. Peremennaya chast'; 1959 (Astronomical Calendar; Yearbook. Variable Part; 1959) Moscow, Fizmatgiz, 1958. 370 p. 8,500 copies printed.

Ed.: I.Ye. Rakhlin; Tech. Ed.: S.N. Akhlamov; Editorial Board: P.I. Bakulin (Resp. ed.), S.G. Kulagin, A.G. Masevich, and P.P. Parenago.

PURPOSE: This astronomical calendar is intended for specialists in astronomy, astrophysics, and geophysics.

COVERAGE: The book is divided into two parts. The first, based on data taken from the USSR Astronomical Yearbook for 1959, consists of ephemerides and accompanying text, compiled and written by the following specialists: S.G. Kulagin and L.D. Kovbasyuk of the GAGO (State Astronomical and Geodetical Society) - notes on ephemerides, the ephemerides of the Sun and Moon; M.M. Dogayev of the MOVAGO (Moscow Branch of the All-Union Astronomical and Geodetic Society) - text and maps of the visible trajectories of the planets, text and maps of eclipses, the physical coordinates

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of the Sun, Moon, Mars, and Jupiter, the satellites of Jupiter and Saturn; N.D. Rozenblyum (MOVAGO) - emphemerides and heliocentric longitudes of planets; I.F. Yegorchenko, A.A. Kaverin, T.G. Konstantinova, V.A. Kuklina, G.V. Kuklin, Z.G. Sazonova, L.I. Chernykh, and N.S. Chernykh - data on 144 points in the USSR for the full solar eclipse of October 2, 1959; Ye.G. Demidovich (GAGO) - occultation of the stars and planets by the Moon, observation of the Polar Star, computation of stellar coordinates; V.A. Bronshteyn (MOVAGO) - comets; N.S. Yakhontova - the lesser planets; and, N.B. Perova (MOVAGO) - variable stars. The second part, the Supplement, contains a review of the achievements in astronomy for the years 1956 and 1957, written by V.A. Bronshteyn, O.D. Dokuchayeva, L.A. Katasev, M.A. Klyakotko, P.P. Parenago, and I.S. Shcherbina-Samoylova under the editorship of A.G. Masevich, articles on artificial satellites, the danger in astronautics from meteors, the nature of galaxies, articles on scientific meetings held in the Soviet Union and abroad, and articles on the anniversaries of events in astronomy. The book is profusely illustrated with tables, maps, photographs, and diagrams. The Supplement includes some 125 Soviet references grouped according to subject matter and type of publication.

Astronomical Calendar; Yearbook. Variable Part; 1959 SOV/1840

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maintains its own meteorological station, a Time Station which provides 17 time signals in 24 hours, a Solar Laboratory which conducts systematic studies of the Sun's chromospheric flares on the basis of spectroscopic and photometric observations (Yu.M. Slonim, Chief, and K.F. Kuleshova, Z.B. Korobova, and B.N. Tirnshteyn, staff members), and a network of meteorological and other research stations. Of particular interest is the Kitaba International Latitude Station imeni Ulugbek situated 3 km from the town of Kitaba in the Kashka-Dar'inskaya oblast'. Administered by the Observatory since 1941, the Station has conducted regular observations since 1930. Its staff members include A.M. Kalmykov, Director, D.I. Kravtsev, scientist, and P.V. Shcheglov and V.S. Obraztsov, laboratory assistants. A zenith-telescope APM-2 was installed there in June 1958. In 1932 the Observatory came under the jurisdiction of the Committee on Science of the Central Executive Committee of the Uzbek SSR, since which time it has engaged in a program of research in exact time determination, solar activity, and meridian and photographic astronomy. It had been conducting regular observations of sun spots and solar protuberances since 1932. The Observatory's staff includes M.F. Bykov, who completed the work begun in 1945 of determining the direct ascension of weak stars by the absolute

method; Kh.R. Shakirova, B.V. Yasevich, and A. Kadyrov, who made thorough studies with two passage instruments of personal and instrument errors; V.P. Shcheglov, V.T. Beda, B.Zh. Bal'zhinova, B.V. Yasevich, N.A. Omelina, L.N. Koshkina, M.G. L'vova, and G.I. Kazakov, who, in cooperation with IGY program, engaged in daily determinations of time corrections on two passage instruments and in the reception of a large number of rhythmic signals, V.A. Mal'tsev and N.N. Sytinskaya - observation of meteors; A.A. Latypov, I.M. Ishchenko, and G. Kim - regular photographic observations of the Earth's artificial satellites; F.G. Ustimenko, Chief Mechanical Engineer, and Ye.P. Kolesnikova, Head Librarian. Some of the newer equipment possessed by the Observatory include: a passage instrument APM-10, new printing chromographs, radio reception and measurement apparatus, two sets of quartz clocks obtained in 1958, a normal astrograph, a meridian circle, a zenith-telescope APM-2 set up in 1957, a solar protuberance spectroscope (obtained 1932), a standard spectrohelioscope (obtained 1935), a

chromosphere-photosphere telescope, a celostat with a clock mechanism for spectrohelioscope, and a microphotometer MF-4. The Tashkent Astronomical Observatory (TAO) published its own Trudy, a Byulleten', and Circulars.

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VORONTSOV-VEL'YAMINOV, B.A.

Conference on the physics of planetary nebulae. Vop.kosm. 6:354-358 '58. (MIRA 11:10)

(Nebulae)

VORONTSOV-VEL'YAMINOV, B.A.

Radio galaxies and galaxies with broad emissions in the spectra of their nuclei; morphology of galaxies. Part 4. [with summary in English]. Astron. zhur. 35 no.2:208-217 Mr-Ap '58. (MIRA 11:6)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga. (Radio astronomy) (Stars—Distribution)

AUTHOR: Vorontsov - Vel'yaminov, B. A. 33-35-3-22/27

TITLE: Review of the Book "Vistas in Astronomy", Edited by A. Beer. Pergamon-Press. London - New York (Retsenziya knigi "Perspektivy astronomii", sbornik pod redaktsiyey Beera. London - N'yu-York. Izdatel'stvo Pergamon Press, 1955-56)

PERIODICAL: Astronomicheskiy zhurnal, 1958, Vol 35, Nr 3, pp 496-498 (USSR)

ABSTRACT: The well-known Soviet astronomer Vorontsov-Vel'yaminov welcomes the volume as an important event in the international astronomical literature and he especially praises the international mind of the preface of Beer. He regrets the disproportionally large part of historical articles (compared with the new papers on celestial mechanics and astrometry) and the very high price of the book.

SUBMITTED: April 2, 1958

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Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1959, Nr 8, p 34

AUTHOR: Vorontsov-Vel'yaminov, B.A.

TITLE: First Results of Studying Interacting Galaxies

PERIODICAL: Astron. tsirkulyar, 1958, May 26, Nr 192, pp 15 - 16

ABSTRACT: About 500 pairs of galaxies were found in the Palomar Atlas, which the author named interacting galaxies. Criteria of interacting galaxies are as follows: 1) Galaxies in a common haze composed of stars; 2) Galaxies connected by bridges; 3) Galaxies which are in a state of visual interpenetration, and 4) Galaxies whose shapesare distorted by the effect of the other. A preliminary study of collected data permits the following conclusions to be drawn: Interacting galaxies have a common origin; visual manifestations of their interaction (bridges, tails) can not arise as a result of conventional gravitational tides; the nature and origin of spiral arms,

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First Results of Studying Interacting Galaxies

bridges and tails are akin and hardly are a result of the flow of gases along the lines of a magnetic field. The totality of the facts testifies in favor of the assumption that galaxies which are interacting macroscopically possess some properties in addition to the gravitational action of their constituent stars.

N.P. Kukarkina

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VORONTSOV-VEL'YAMINOV, Boris Aleksandrovich

[Astronomy; a textbook for the 10th grade in secondary schools] Astronomiia; pidruchnyk dlia 10 klasu seredn'oi shkoly. Vyd.12. Kyiv, Radians'ka shkola, 1958. 138 p. (MIRA 13:8)
(Astronomy)

VORONTSOV-VEL'YAMINOV, B.A.

First results of studying inte-active galaxies. Astron.tsir. no.192:15-16 My '58. (MIRA 11:10)

1.Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga, Moskva.
(Galaxies)

PHASE I BOOK EXPLOITATION SOV/3717

Vorontsov-Vel'yaminov, Boris Aleksandrovich

Ocherki o vselennoy (Features of the Universe) 4th ed. Moscow, Fizmatgiz, 1959. 532 p. 21,000 copies printed.

Ed.: L.V. Samsonenko; Tech. Ed.: K.F. Brudno.

PURPOSE: The book is intended for readers interested in astronomy.

COVERAGE: This book is a popular presentation of the present state of knowledge of the universe. In Part I, the author describes the solar system. Part II deals with stars, galaxies and nebulae. Fundamentals of radio astronomy and cosmogony are outlined. Photographs of observatories and astronomical instruments have been included. The author thanks Professor D.Ya. Martynov. There are no references.

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